Exploring the High Quality Fixed Income Market

And Possible Agency Alternatives

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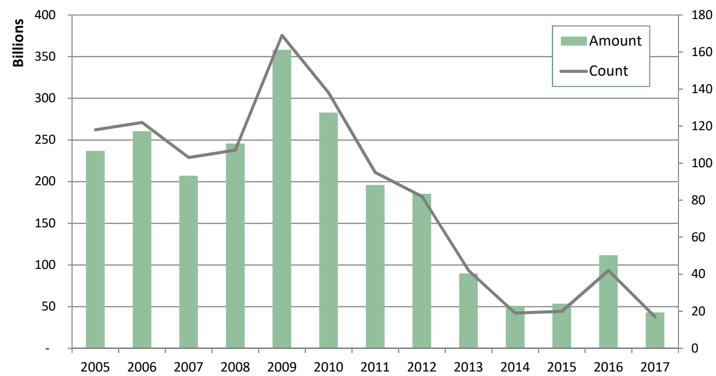
The Decline of Depth in the Agency Debt Market



The volume and number of large (greater than $1 billion) agency debt issuance has decreased dramatically

- Liquidity and price visibility is greatest among large deals

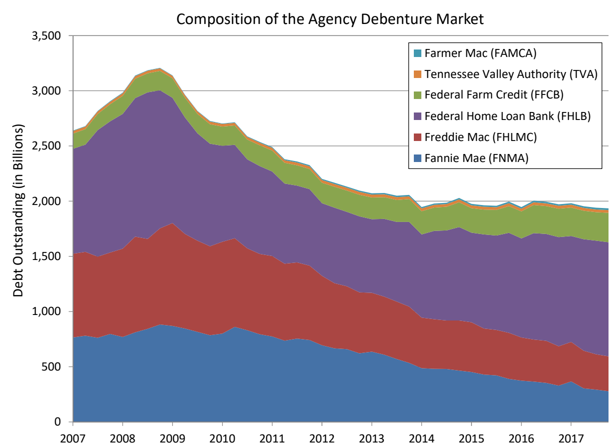
Source: Bloomberg, ICE BAML US Agency Index (G0P0). Please see ICE BAML Disclosure at the end of this presentation.

Agency Supply Slowly Disappearing

The outstanding supply of the Agency market has held near $2T since 2014 (currently $1.93T)

While in conservatorship, Fannie and Freddie have shrunk their balance sheets, thereby reducing their need to issue

Issuance of FHLB and FFCB debt has ramped up to fill the void, but supply is slowly declining



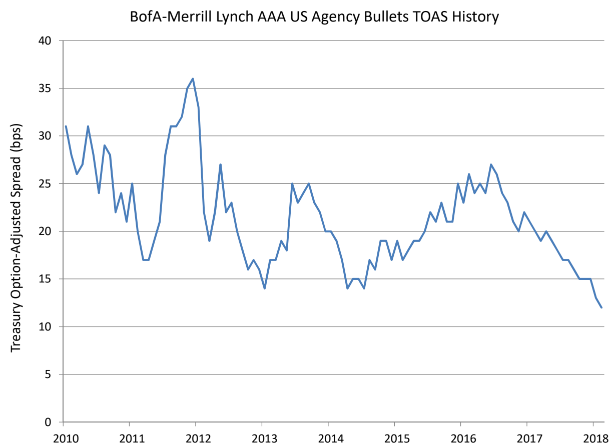
Source: Securities Industry and Financial Markets Association

TOAS for BAML Agency Bullet Index At the Lows

After rising steadily from July 2014 through June 2016, bullet spreads have declined to new lows

TOAS for the BAML AAA US Agency Bullet Index is currently +12bps, down 15bps since the recent peak in mid-2016 and down 24bps since December 2011

TOAS averaged +18bps in 2017 and +24bps in 2016



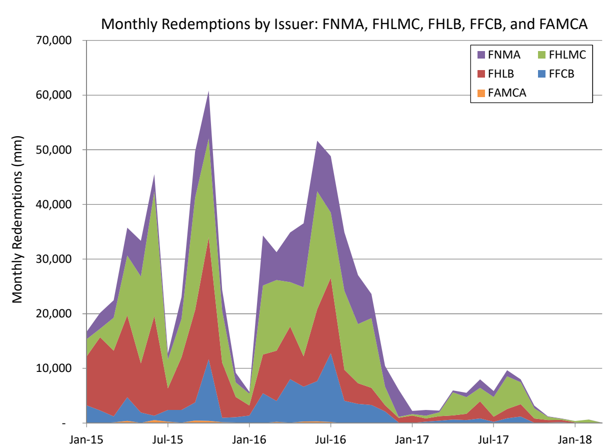
Source: Bank of America Merrill Lynch

Higher Rates Quell Call Activity

Following considerable call activity in 2015 and 2016, redemptions plummeted 84% in 2017

The cumulative par value called in 2017 totaled \$55.2B; this compares to \$51.7B in June 2016

Through March, the cumulative par value called totaled just \$1.1B



Source: Bloomberg and Stifel

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California Government Code Permissible Investments

Available Investments

- US Treasuries
- Agency Securities
- Municipal Bonds
- Corporate Notes
- Negotiable Certificates of Deposit
- Certificates of Deposit
- Commercial Paper
- Asset Backed Securities/CMO
- Supranational Securities
- Bankers Acceptances
- County Pools
- Mutual Funds
- Money Market Mutual Funds
- Local Agency Investment Fund

Today's Focus

As Agency securities become less abundant, investors may need to look elsewhere. A few alternatives:

- *Corporate Notes*
- *Supranational Securities*
- *Asset Backed Securities/CMO*

Investment Process and Considerations When Exploring New Sectors

1. Investment Policy Constraints/Risk Tolerance
   - Ensure all aspects of the policy are suited for non government securities
     - Ratings language, downgrade language, concentration limits, etc.
   - Governing body and public's risk tolerance
     - Loss due to spread widening, headline risk, downgrade risk
   - Non investment policy internal constraints
     - Limiting certain concentrations to ensure diversification
2. Liquidity
   - Non governmental securities may experience period of decreased liquidity
     - May need to expand broker dealer network to find suitable visibility into the market
3. Valuation
   - Spreads and relationships continually change as the market digests current information and forecasts for the future
4. Reporting Complexities
   - Constant monitoring of investments is critical for managing risk
   - Amortizing securities may cause accounting/reporting complexities
5. Time Requirements
   - Managing a diversified portfolio requires a significant investment in time and data
   - Creating a process to monitor all aspects of the market is time consuming

Transparency and Best Execution

Transparency of Credit Fundamentals

- Investing securities outside of the government or "quasi" government backed realm requires additional diligence to understand the structure of the security as well as ongoing monitoring
  - Call features, covenants, etc.
- Constant monitoring of securities with credit risk is needed to help detect weakening credit fundamentals, potential mergers and acquisition appetite or other shareholder friendly actions
  - Process for communicating downgrades
- Within asset backed securities monthly remittance reports detail collateral performance and could signal collateral issues before they occur

Transparency of Trading

(http://finra-markets.morningstar.com/BondCenter/Default.jsp)

- Recent reporting regulations allows for investors to gain visibility into a traditionally opaque market
- Able to see recent and historical trade details
  - May take extra work, but this resource is vital to building a valuation process
- Implementing a valuation process can help in ensuring best execution

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Introduction to D.C. Supranationals

- Supranationals are multilateral development banks, comprised of member countries, established with the purpose of ending poverty and raising the standard of living around the world through sustainable economic growth
- Three common supranationals held by government funds are:
  - **International Bank for Reconstruction and Development (IBRD or World Bank)**, a member of the World Bank Group, provides direct loans and guarantees to sovereigns and government-backed projects
  - **International Finance Corporation (IFC)**, a member of the World Bank Group, supports the creation and growth of private companies through direct lending and equity investment, attracting third party capital, and providing advisory services
  - **Inter-American Development Bank (IADB)**, a member of the Inter-American Development Bank Group, provides loans, grants, and guarantees to sovereigns in Latin America and the Caribbean
- Characteristics shared by the IBRD, IFC, and IADB include:
  - Headquartered in Washington, D.C. with the United States as the largest shareholder
  - Bullets comprise the majority of their outstanding debt
  - Rated AAA/Aaa by S&P and Moody's

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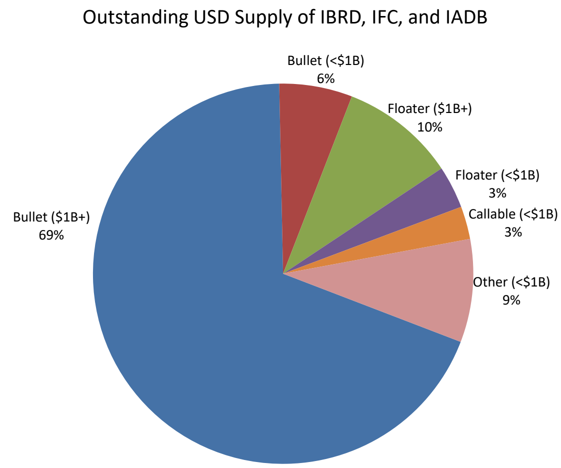
Heavy Reliance on Benchmark Deals ($1B+) for Funding

With $1B+ size deals representing nearly 80% of their total USD debt, the IBRD, IFC, and IADB are regular issuers of benchmark deals

In terms of structure, bullets have 75% market share, followed by floaters at 13%

Fixed rate callables represent just 3% of current supply



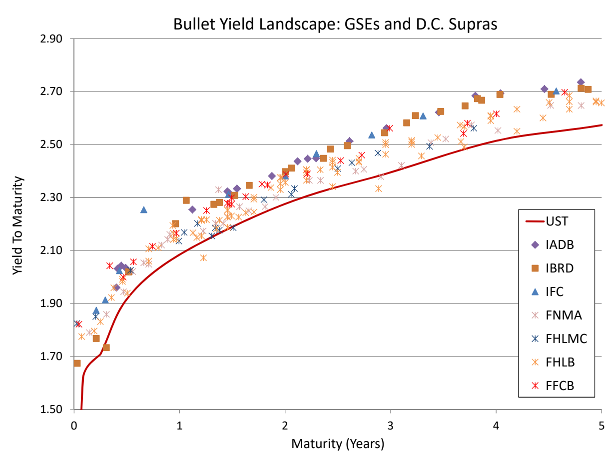
Source: Bloomberg and Stifel

Supras Offer Additional Spread in the Belly of the Curve

Bullet yields plot orderly across the curve for both GSE and off-the-run issuers

For maturities between one and five years, supras establish the efficient frontier, generally offering the highest yield for a given maturity

The yield differential between the three D.C. supras is minimal in the current environment



Source: Bloomberg and Stifel

Indications as of March 29, 2018

D.C. Supranational Considerations

- Credit Quality
  - Both S&P and Moody's assign the IBRD, IFC, and IADB the highest credit rating (AAA/Aaa); furthermore, minimum liquidity and capital requirements are in place to preserve this
  - Structured as cooperatives, the U.S. is the largest share holder of each organization (IBRD: 17%, IFC: 22%, IADB: 30%)
  - The IBRD and IADB provide loans and guarantees exclusively to sovereigns and government-backed projects
- Liquidity
  - Supranationals trade marginally wider than the four primary GSE issuers; however, an active secondary market exists
  - The propensity for supras to issue benchmark deals in USD supports better liquidity
- Environmental, Social, and Governance (ESG)
  - With shared goals of ending poverty and raising standards of living globally, supranationals are focused on improving the world around us
  - Anecdotally, we have recently seen government funds place greater emphasis on ESG considerations when choosing between investment alternatives

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Corporate Considerations

Have a complete, documented strategy that aligns with the risk tolerance and needs of the agency

- Strategy might be vastly different from approved investment policy
  - Name or industry exclusion list, more conservative ratings requirements
- Have a full understanding of liquidity needs and how they will be served
  - Corporates may experience additional volatility and may be tougher to sell during periods of stress

Concentration limitations and targets

- Specific product concentration limits (Ex. 25% Corporates)
- Cross product specific name concentration limits (Ex. 5%)

Distribution of specific industry/names across the maturity spectrum

- Diversification of corporate sector stratifications (Ex. industries, ratings, specific names)
- Corporate reposition and trends may be industry specific
- California Government Code allows for portfolios to become very concentrated

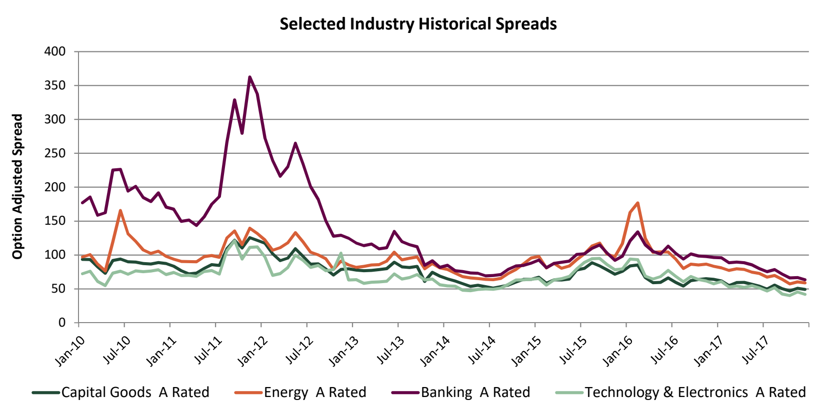
Monitoring process

- Corporate notes cannot be purchased and locked away, they require constant monitoring
- Fundamentals can shift quickly leaving the security potentially downgraded and out of compliance

Valuation

- Valuation between sectors, specific names and maturities constantly change
- Portfolio allocations may shift as the market shifts

Corporate, Spreads, Issuance



- Credit spreads have tightened and but also remained relatively range bound the past several years.
  - Pockets of value can be found
  - Diversification is a key component to a corporate allocation as certain corporate sectors or issuers may experience challenging periods

Source: Bloomberg, ICE BAML 1-10 Year US Corporate Index (C5A0) . Please see ICE BAML Disclosure at the end of this presentation.

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Asset Backed Security(ABS) Considerations

- Security Structure
  - Considerable structural differences among ABS securities in the market
  - Priority of payment, weighted average life and optionality means each security is uniquely different
- Relative Value Analysis
  - Investors must use the mosaic approach to determining relative value as individual securities do not trade in meaningful size on a daily basis
    - Looking at securities from the same or different issuers may help build the valuation picture
    - Different fixed income sectors can also help determine relative value
  - Valuation can vary across tenors and tranches
  - Collateral characteristics can drive valuation differences as underlying loans may exhibit unique risk characteristics
  - Bullet/amortizing structure
- Collateral Composition
  - Each pool of assets is distinctly different and each program has different collateral with unique characteristics
    - Varying economic or market conditions can affect specific issues/programs differently
- Historical Performance
  - Varying economic or market conditions can affect the cash flows of specific issues/programs differently
    - Delinquency, Default, prepayment and severity rates can affect expected cash flows, and thus expected return characteristics
- Liquidity
  - ABS securities are not traded over electronic platforms and secondary execution levels are subject to specific market dynamics and broker relationships
  - Selling small piece sizes can result in securities trading at a significant discount to the market
- Reporting/Accounting Complexities
  - Some ABS securities have amortizing structures, others may have expected maturity dates, or potentially a hybrid

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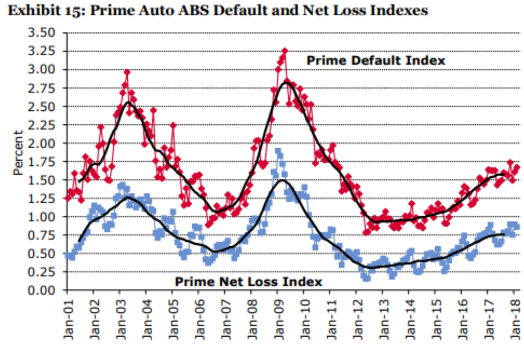
Asset Backed Credit Quality

Exhibit 15: Prime Auto ABS Default and Net Loss Indexes

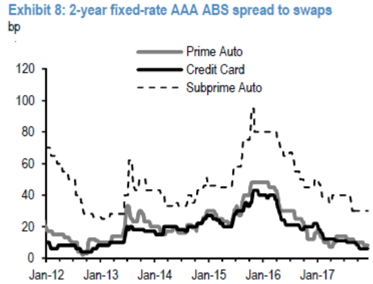


Source: Intex, Wells Fargo Securities

- Overall collateral credit quality remains very strong, performing inline with historical trends
  - Structural credit enhancements are robust, protecting AAA ratings for senior bonds
- AAA rated securities with a long history of very little downgrade risk

ABS Valuation

Exhibit 8: 2-year fixed-rate AAA ABS spread to swaps



Source: JP Morgan

Source: Bloomberg

- Asset backed securities are valued using the combination of two different spreads
  - Securities are typically priced with a spread to a swaps curve
    - o The swaps curve may/may not provide an additional spread of an equal tenor Treasury security
  - Corporate notes are valued by a spread to Treasuries

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Agency CMBS in a Nutshell

- Agency Commercial Mortgage-Backed Securities (CMBS) are created from pools of underlying multifamily loans whose principal and interest payments are guaranteed by one of the three housing GSEs (Fannie Mae, Freddie Mac, Ginnie Mae)
- Agency CMBS may be issued in passthru form, meaning that cashflows from the mortgages are "passed through" to investors on a pro rata basis, or in CMO form where the cashflows are tranched and paid out based on predetermined rules
- Although underwriting criteria and loan terms may vary across different multifamily programs, most commercial mortgages have a balloon payment at maturity that creates "bullet like" qualities for these securities
  - Hard final maturity
  - Better convexity and roll-down performance than single-family MBS
- Three common Agency CMBS programs include:
  - Freddie K
  - Fannie Mae Delegated Underwriting and Servicing (DUS)
  - Fannie Alternative Credit Enhancement (ACE)

Defeasance vs. Yield Maintenance

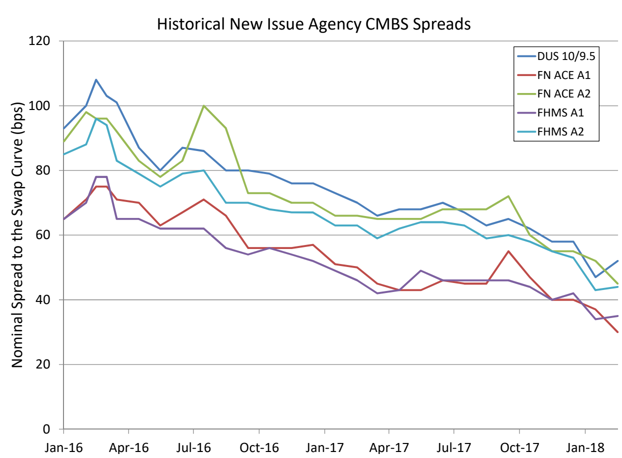
- Most fixed rate multifamily loans under the K program have prepayment protection in the form of a hard lockout period during the first two years followed by defeasance that extends to all but the last 3 months of the loan
  - During the lockout period, prepayments are prohibited
  - Defeasance requires that borrowers pledge securities to the trustee that provide payments equal to or greater than the scheduled principal and interest payments of the loan being prepaid
  - Eligible securities that may be pledged include certain obligations of the U.S. Treasury, Fannie Mae, Freddie Mac, and the Federal Home Loan Bank
- Most fixed rate DUS loans have prepayment protection in the form of yield maintenance that typically exists for all but the last 6 months of the loan
  - The yield maintenance fee is the greater of a) 1% of the prepaid amount OR b) the present value of the amount being prepaid *multiplied* by the spread between the loan rate and a reference UST note
  - Following the yield maintenance period and up until the final 3 months of the loan, borrowers are subject to a 1% prepayment penalty
- Yield maintenance and defeasance reduce the economic incentive to refinance; prepayments of DUS and K loans in the early years are typically associated with cash-out refinances

Agency CMBS Spreads are Under Pressure

New issue ACMBS spreads have tightened considerably over the past few years as increasingly more investors have become involved in the sector

With fewer loans, a wider pay window, and less call protection, DUS bonds offer a slight spread advantage

The spread relationship between ACEs and Ks varies by tranche



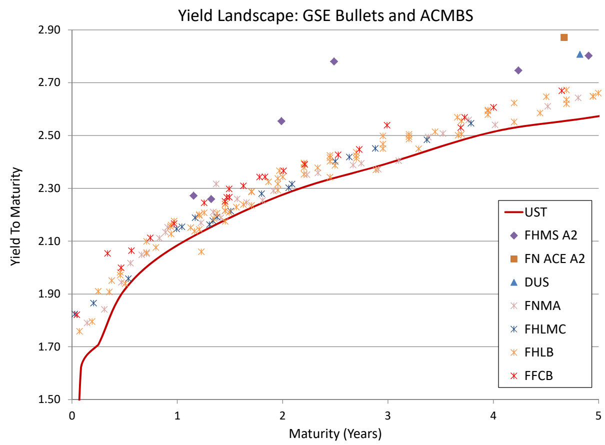
Source: Stifel

Agency CMBS Pick Yield Over Agency Bullets

Despite tightening considerably over the past few years, ACMBS still offer compelling spreads versus GSE bullets

However, finding short ACMBS in decent size may prove a challenge for CA local agencies

Furthermore, the convexity profile of ACMBS may deteriorate as the bonds near maturity and enter their open periods



Source: Bloomberg and Stifel

Indications as of March 29, 2018

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Agency CMBS Considerations

- Credit Quality
  - Principal and interest payments on commercial mortgages are guaranteed by either Fannie Mae, Freddie Mac, or Ginnie Mae; therefore, Agency CMBS essentially have the same credit risk as Agency debentures
  - While typically unrated, some Freddie Ks and DUS/Aces have received AAA ratings
- Liquidity
  - Although actively traded, ACMBS are less liquid than Treasury or Agency notes
  - Determinants of liquidity include: par value, loan count, collateral, pay window, etc.
- Collateral Quality
  - Given the GSE guarantees, principal and interest are not at risk; however, the characteristics of the underlying loans can dramatically impact the performance and valuation of a bond
  - Careful analysis of the collateral should be performed prior to purchase
- Accounting/Reporting Complexities
  - When purchased at a price above par, monthly premium amortization may be required
  - Prepayments on the underlying loans will accelerate the premium amortization, negatively affecting the performance of the bond

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